

**REMARKS**

The Office Action dated April 11, 2005 has been received and the Examiner's comments carefully reviewed. Prior to entry of this paper, Claims 1-17 were pending. Claims 1-8, 12, 16, and 17 were rejected. Claims 9-11 and 13-15 were objected to, but were identified as being allowable if rewritten in independent form. In this paper, Claims 1, 2, 7-12, 14, 15, and 17 are amended to correct clerical errors and new claims 18-26 are added. Claims 1-26 are currently pending. No new subject matter has been added. For at least the following reasons, Applicants respectfully submit that each of the presently pending claims is in condition for allowance.

**Allowable Subject Matter**

Claims 9-11 and 13-15 were objected to as being dependent upon a rejected base claim, but were identified as being allowable if rewritten in independent form.

Claims 9 and 14 were re-written in independent form. Claims 10 and 11 depend on Claim 9, which is now written in independent form, and Claim 15 depends on Claim 14, which is now written in independent form.

Accordingly, it is respectfully submitted that Claims 9, 10, 11, 14, and 15 are condition for allowance, and notice to that effect is earnestly solicited.

**Objection to Claims 7 and 17**

The Examiner noted that, in Claims 7 and 17, "sense transistor" should be --sense transistor-. Applicants note that Claims 1, 2, 7-12, 14, 15, and 17 inadvertently included the "sense resistor" instead of "sense transistor" as a result of clerical error. Claims 1, 2, 7-12, 14, 15, and 17 are amended in this paper to correct this cleric error.

Applicants respectfully submit that objection to Claim 7 and 17 is moot in light of the amendment to Claims 7 and 17.

**Rejection to Claims 1-8, 12, 16, and 17 based on Magoon**

Claims 1-8, 12, 16, and 17 were rejected under 35 U.S.C. § 102(e) as being anticipated by Magoon (USP 6744795). Applicants respectfully traverse the rejection.





substantially equivalent to the drain voltage of the power transistor, the current flowing through the power transistor is substantially turned off.

However, in Magoon, current flows through both transistor 305 and transistor 306 when the drain-to-source voltages of transistors 305 and 306 are equal. In fact, operational amplifier 312 is employed to ensure that the drain-to-source voltages of transistors 305 and 306 are substantially the same so that the current mirror 305/306 provides a substantially linear and predictable response to the reference current 302 in generating the modulation current 316. Current flows through both transistor 305 and 306 when the drain-to-sources voltage of transistor 305 and 306 are substantially the same.

Accordingly, it is respectfully submitted that Magoon does not disclose all of the limitations of Applicant's Claim 4.

#### **Rejection to Claims 1 and 6-8 based on Ichiki**

Claims 1 and 6-8 were rejected under 35 U.S.C. § 102(b) as being anticipated by Ichiki (JP 2001-185964). Applicants respectfully traverse the rejection.

It is respectfully submitted that the rejection to Claim 1 should be withdrawn at least because the Ichiki does not disclose, "the current sink pulls down a drain voltage of the sense transistor if a current flowing through the power transistor is less than a limit", as recited in Applicant's Claim 1. Additionally, it is respectfully submitted that the rejection Applicant's Claim 1 should be withdrawn at least because Ichiki does not disclose, "a control component that is arranged to limit the current flowing through the power transistor if the drain voltage of the sense transistor is substantially equivalent to a drain voltage of the power transistor", as recited in Applicant's Claim 1.

In Figure 3B of Ichiki, transistors 201p and 202p form a current mirror which provides an output current  $I_{out}$  at the output of the current mirror (the drain of transistor 202p) based on a reference current  $I_{ref}$  provided at the input of the current mirror (the drain of transistor 201p). Transistor 202p of Ichiki is the output-side transistor, and transistor 201p is the input-side transistor. A differential amplifier of Ichiki with an input connected to the drain of transistor 201p, another input connected to the drain of transistor 202p, and an output connected to the bases of transistors



Both Ichiki and Magoon describe circuits in which a current source is applied to drain of the input-side transistor in order to provide an output current at the drain of the output-side transistor. The current source operates to provide a reference current to the input-side transistor and does not act as a pull-down device. Also, in both Ichiki and Magoon, a differential amplifier or operational amplifier is used to cause the drain-to-source voltages of the current mirror transistors to be equal, as opposed to limiting the current if the drain-to-source voltages become equal.

For at least the reasons stated above, Applicants respectfully submit that Claim 1 is allowable, and notice to that effect is earnestly solicited.

The rejection to Claims 6-8 are respectfully traversed at least because Claims 6-8 depend on Claim 1.

For at least the reasons stated above, it is respectfully submitted that Claims 1-17 are allowable, and notice to that effect is earnestly solicited.

#### **New Claims 18-26**

Claims 18-26 are respectfully submitted to be allowable at least because they depend on Claim 1, which is proposed to be allowable. Claim 26 is respectfully submitted to be allowable at least for reasons stated above with regard to Claim 1. Claim 26 has antecedent basis in the specification as filed because one of ordinary skill in the art would understand in light of the specification that the circuits described could be modified by reversing the connections and polarities of the elements in the circuit.

#### **Conclusion**

It is respectfully submitted that each of the presently pending claims (Claims 1-26) are in condition for allowance and notification to that effect is requested. The Examiner is invited to contact Applicants' representative at the below-listed telephone number if it is believed that prosecution of this application may be assisted thereby. Although certain arguments regarding patentability are set forth herein, there may be other arguments and reasons why the claimed invention is patentably distinct. Applicants reserve the right to raise these arguments in the future.

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Respectfully submitted,

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